In the Claims

1 (currently amended). A nanoparticle comprising a complex of chitosan, or a chitosan derivative; a lipid; and a polynucleotide, wherein said nanoparticle induces production of less interleukin-6 in respiratory epithelium compared to a particle comprising a complex of the chitosan, or chitosan derivative, and the polynucleotide without the lipid.

2 (cancelled).

3 (previously presented). The nanoparticle of claim 1, wherein said polynucleotide encodes a cytokine.

4 (previously presented). The nanoparticle of claim 1, wherein said polynucleotide encodes interferon gamma.

5 (currently amended). A composition comprising a nanoparticle and a pharmaceutically acceptable carrier, wherein said nanoparticle comprises a complex of chitosan, or a chitosan derivative, a lipid, and a polynucleotide, wherein said nanoparticle induces production of less interleukin-6 in respiratory epithelium compared to a particle comprising a complex of the chitosan, or chitosan derivative, and the polynucleotide without the lipid.

6 (cancelled).

7 (previously presented). The composition of claim 5, wherein said polynucleotide encodes a cytokine.

8 (previously presented). The composition of claim 5, wherein said polynucleotide encodes interferon gamma

9 (cancelled).

10 (currently amended). A method for delivery and expression of a polynucleotide ~~within a~~ in respiratory epithelium of a mammal, said method comprising administering a nanoparticle to the ~~mammal~~ respiratory epithelium, wherein said nanoparticle comprises a complex of chitosan, or a chitosan derivative, a lipid, and a polynucleotide, wherein said polynucleotide is expressed in the ~~mammal~~ respiratory epithelium, wherein said nanoparticle induces production of less interleukin-6 compared to a particle comprising a complex of the chitosan, or chitosan derivative, and the polynucleotide without the lipid.

11 (cancelled).

12 (previously presented). The method of claim 10, wherein said polynucleotide encodes a cytokine.

13-15 (cancelled).

16 (currently amended). The method of claim 10, wherein said nanoparticle is administered within a composition comprising a pharmaceutically acceptable carrier.

17 (currently amended). A method for enhancing interferon-gamma expression in respiratory epithelium of a mammal to regulate the production of cytokines secreted by T-helper type 2 (Th2) cells, said method comprising administering an effective amount of a nanoparticle to ~~a mammal~~ the respiratory epithelium, wherein said nanoparticle comprises a complex of chitosan, or a chitosan derivative, a lipid, and a polynucleotide encoding interferon-gamma, ~~and~~ wherein said polynucleotide is expressed in the respiratory epithelium, thereby producing interferon-gamma in the

mammal, and wherein said nanoparticle induces production of less interleukin-6 compared to a particle comprising a complex of the chitosan, or chitosan derivative, and the polynucleotide without the lipid.

18 (previously presented). The method of claim 17, wherein the mammal is human.

19 (previously presented). The method of claim 17, wherein the mammal is suffering from asthma.

20 (currently amended). The method of claim 17, wherein said nanoparticle is administered to the respiratory tract of the mammal.

21 (previously presented). A method for producing a nanoparticle comprising a complex of chitosan, or a chitosan derivative thereof, a lipid, and a polynucleotide, said method comprising mixing said polynucleotide, said lipid, and said chitosan or chitosan derivative, to form said nanoparticle.

22-23 (cancelled).

24 (previously presented). The method of claim 10, wherein said nanoparticle is administered intranasally.

25 (previously presented). The nanoparticle of claim 1, wherein said lipid is a cationic lipid.

26 (previously presented). The nanoparticle of claim 1, wherein said nanoparticle comprises chitosan.

27 (previously presented). The nanoparticle of claim 1, wherein said nanoparticle comprises a chitosan derivative.

28 (previously presented). The nanoparticle of claim 1, wherein said lipid is a phospholipid.

29 (previously presented). The nanoparticle according to claim 1, wherein said polynucleotide is surrounded by a monolayer of said lipid.

30 (previously presented). The method according to claim 10, wherein said nanoparticle comprises a chitosan derivative.

31 (previously presented). The method according to claim 10, wherein the mammal is human.

32 (previously presented). The method according to claim 10, wherein said nanoparticle is administered to the respiratory tract of the mammal.

33 (previously presented). The method according to claim 17, wherein said particle is administered intranasally.

34 (previously presented). The method according to claim 17, wherein said particle comprises a chitosan derivative.

35-36 (cancelled).

37 (currently amended). The nanoparticle of claim 29, wherein said nanoparticle comprises a plurality of polynucleotide-lipid inverted cylindrical micelles ~~are~~ arranged in a hexagonal lattice.

38 (currently amended). The composition of claim 5, wherein said polynucleotide is surrounded by a monolayer of said lipid, and wherein said nanoparticle comprises a plurality of polynucleotide-lipid inverted cylindrical micelles ~~are~~ arranged in a hexagonal lattice.

39 (currently amended). The method of claim 10, wherein said polynucleotide is surrounded by a monolayer of said lipid, and wherein said nanoparticle comprises a plurality of polynucleotide-lipid inverted cylindrical micelles ~~are~~ arranged in a hexagonal lattice.

40 (currently amended). The method of claim 17, wherein said polynucleotide is surrounded by a monolayer of said lipid, and wherein said nanoparticle comprises a plurality of polynucleotide-lipid inverted cylindrical micelles ~~are~~ arranged in a hexagonal lattice.

41 (cancelled).

42 (new). The composition of claim 5, wherein said lipid is a cationic lipid.

43 (new). The method of claim 10, wherein said lipid is a cationic lipid.

44 (new). The method of claim 17, wherein said lipid is a cationic lipid.

45 (new). The nanparticle of claim 1, wherein said nanoparticle exhibits a higher transfection efficiency compared to each of: (a) said polynucleotide alone, (b) a complex of said polynucleotide and said chitosan or chitosan derivative, and (c) a complex of said polynucleotide and said lipid.

46 (new). The composition of claim 5, wherein said nanoparticle exhibits a higher transfection efficiency compared to each of: (a) said polynucleotide alone, (b) a complex of said polynucleotide and said chitosan or chitosan derivative, and (c) a complex of said polynucleotide and said lipid.

47 (new). The method of claim 10, wherein said administering of said nanoparticle achieves higher transfection efficiency compared to administration of each of: (a) said polynucleotide alone,

(b) a complex of said polynucleotide and said chitosan or chitosan derivative, and (c) a complex of said polynucleotide and said lipid.

48 (new). The method of claim 17, wherein said administering of said nanoparticle achieves higher transfection efficiency compared to administration of each of: (a) said polynucleotide alone, (b) a complex of said polynucleotide and said chitosan or chitosan derivative, and (c) a complex of said polynucleotide and said lipid.